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**BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

Application Number: 10/604,813
Filing Date: August 19, 2003
Appellant(s): OOHARA, KOUJI

DELAND LAW OFFICE
For Appellant

**EXAMINER'S ANSWER**

This is in response to the appeal brief filed September 15, 2008 appealing from the Office action mailed July 1, 2008.

**(1) Real Party in Interest**

A statement identifying by name the real party in interest is contained in the brief.

**(2) Related Appeals and Interferences**

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

**(3) Status of Claims**

The statement of the status of claims contained in the brief is correct.

**(4) Status of Amendments After Final**

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

**(5) Summary of Claimed Subject Matter**

The summary of claimed subject matter contained in the brief is correct.

**(6) Grounds of Rejection to be Reviewed on Appeal**

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

**(7) Claims Appendix**

The copy of the appealed claims contained in the Appendix to the brief is correct.

**(8) Evidence Relied Upon**

| | | |
|---|---|---|
| **6,047,230** | **SPENCER ET AL. The specification of the Appellant's present application (10/604,813)** | **4-2000** |
| **6,181,344** | **TARPENNING ET AL.** | **1-2001** |
| **5,247,430** | **SCHWALLER** | **9-1993** |
| **4,609,982** | **GOHDA** | **9-1986** |
| **JP 07-229909 A** | **TOMITA** | **8-1995** |

**(9) Grounds of Rejection**

The following ground(s) of rejection are applicable to the appealed claims:

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 28-32, 34-39, 41-46 and 48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Spencer et al. (6,047,230), Tarpenning et al. (6,181,344), Admitted Prior Art (APA), and Schwaller (5,247,430). Regarding independent claim 28, Spencer teaches a bicycle

control apparatus comprising a programmed power/control circuit (21) that receives power from a power supply (30) and outputs power and control signals to bicycle components, including first bicycle components (display 31 & gear shift driving component 29; Fig. 2). The display and the gear shift driving component both receive control signals from the power/control circuit and are controlled based on those signals. Spencer teaches his gear shift driving component having a CPU for decoding the information in the control signals and shifting gears in response to the decoded control signals.

Spencer fails to explicitly teach the recited second electrical bicycle component. Tarpenning teaches an LCD display including a backlight which can be turned ON and OFF (Col. 6, lines 1-4). It would have been obvious to one of ordinary skill in the art at the time of the invention to implement Tarpenning's LCD display with backlight into Spencer's invention as first (display) and second (backlight) electrical bicycle components, so that a user could be able to read the display at night. In this instance, the backlight of the LCD display doesn't receive any control signals, just power signals to turn the light ON and OFF.

Spencer fails to explicitly teach the power and control signals being combined into one composite signal having both a power and control signal. APA teaches the technology for communicating both power and control signals using composite signals (first sentence of [0003]). It would have been obvious to one of ordinary skill in the art at the time of the invention to use composite signals to supply both power and control signals to the first bicycle components to reduce the amount of wires used in the system. Also, due to the above combination, it would be necessary for all of Spencer's first bicycle components to have a CPU, like Spencer's gear shift driving component, to receive the composite signal and decode the

signal to extract the information contained in the control signal component to allow the first bicycle components to function as intended by the power/control circuit.

Spencer fails to explicitly teach a power stabilizing circuit. Schwaller teaches a bicycle control apparatus comprising a power stabilizing circuit (1) that receives a signal that includes power and outputs a stable output power to a second electrical component (i.e. lights) via pulsed signal that has ON and OFF components (Fig. 4; Col. 3, lines 31-36). It would have been obvious to one of ordinary skill in the art at the time of the invention to implement Schwaller's power stabilizing circuit into Spencer's invention to receive the composite signal and output a stable and correct amount of power to all of the second electrical bicycle components (i.e. backlight of the LCD display) in Spencer's invention, so that no lights will blowout due to overvoltage.

The above teachings also read on claims 38, 41, 43, 44, and 48.

Regarding claims 29-31, and 42, Spencer teaches the power/control circuit comprising a CPU. He also teaches the control signals having ON and OFF components (pulses), particularly for his display. Spencer also teaches that his gear shift driving component drives a gear shift mechanism having a plurality of gear ratios.

Regarding claims 32, 45 and 46, Schwaller teaches his power stabilizing circuit comprising a capacitor coupled in parallel with the second electrical component (Fig. 2).

Regarding claims 34-37, Spencer fails to explicitly teach the type of supply that is powering the bicycle apparatus. Schwaller teaches power being derived for a bicycle apparatus via AC (G) and DC (battery, 8; Fig. 4) sources, wherein the AC source is being provided from a dynamo hub mounted on the front wheel of the bicycle (Col. 9, lines 12-14; Fig. 12). It would

have been obvious to one of ordinary skill in the art at the time of the invention to use Schwaller's AC and DC power sources to supply power to the system since Spencer was silent as to the type of source used and Schwaller teaches sources known to work in the bicycle art. Also, having two sources allows for more reliability when it comes to powering components.

Regarding claim 39, Spencer teaches the control signal component to the display (31) comprising speed indicating signals (speed data to be displayed).

6. Claims 33 and 47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Spencer et al. (6,047,230), Tarpenning et al. (6,181,344), Admitted Prior Art (APA), and Schwaller (5,247,430) as applied to claims 28, 32, and 44-46 above, and further in view of Gohda (4,609,982). The above references teach a bicycle control apparatus as described above. Spencer fails to teach a diode for preventing reverse current. Gohda teaches a stabilizing circuit having a diode (D1) coupled to prevent reverse current to the power circuit (Fig. 1). It would have been obvious to one of ordinary skill in the art at the time of the invention to add a blocking diode in the stabilizing circuit of the combination Spencer invention to prevent reverse current from flowing back into the power/control circuit.

7. Claim 40 is rejected under 35 U.S.C. 103(a) as being unpatentable over Spencer et al. (6,047,230), Tarpenning et al. (6,181,344), Admitted Prior Art (APA), and Schwaller (5,247,430) as applied to claims 28 and 39 above, and further in view of Tomita (JP 07-229909 A). The above references teach a bicycle control apparatus as described above. Spencer fails to explicitly teach how the power/control circuit derives the speed-indicating signal for the display. Tomita teaches a speedometer, which consists of a waveform shaping circuit, inside the controller, that displays the running speed of a bicycle based on the output of an alternating

current generator (Abstract) (i.e. the hub dynamo of Schwaller), and based on the speed detected derives the speed indicating signal in Spencer's invention. It would have been obvious to one of ordinary skill in the art at the time of the invention to implement this circuit into the combination Spencer invention since the Spencer invention was silent as to how the speed indicating signal is derived and Tomita teaches a method known in the art that would allow for accurate control of the gear shift driving component via his speedometer and waveform shaping circuit.

**(10) Response to Argument**

Regarding the teaching of a CPU in the electrical bicycle components in the Examiner's combination, Spencer MAY not explicitly teach the use of a CPU in his invention, however, he does teach the idea of sending control signals to various bicycle components (i.e. Spencer's gear shift driving component 29) and those components receive and process those signals and in response to those signals perform an action (Col. 6, line 66 thru Col. 7, line 8). Regardless, the combination with the Appellant's Prior Art (APA) teaching of the use of composite signals throughout a bicycle system gives the inherent characteristic of having/needing CPUs that decode and extract the information contained in the control signal component of the composite signal at each electrical bicycle component. The Examiner's inherency argument above regarding the need/use of CPUs is confirmed by the Appellant in the first full paragraph on page 5 of the Appeal Brief. Also, in that same paragraph, the Appellant's argument is moot regarding the negative aspect of the combination, which is the additional cost of CPUs for each component, since the bottom line is that there is motivation to use composite signals in Spencer's invention and that motivation is to reduce wiring.

Regarding the combination teachings with Tarpenning and Schwaller to teach the LCD display with a power stabilizing circuit, when the Examiner stated that the backlight doesn't receive any control signals it was meant that the control signal isn't acknowledged by the backlight (i.e. the backlight isn't controlled by the control signal). For example, in the proposed combination, the composite signal would be sent to the LCD (taught by Tarpenning) display (31 of Spencer), which consists of a display and a backlight (as taught in Tarpenning), where the CPU (inherent from APA's teaching) of the display (31) would receive the composite signal, decode it, and send the power and control signals to the display to power it and display the information from the control signal, and the composite signal would also go through the power stabilizing circuit (taught in Schwaller) and the stabilized power output would be delivered to the backlight of Spencer's LCD display to turn it on with no need/use for the control signal, just like as shown in the Appellant's Fig. 3 (ref. numbers 32, 55, 56, 57, 58). Therefore, regardless of how one would like to phrase what is going on in the system, the proposed combination performs the same functions of the display in the same way as the Appellant's claimed invention.

Regarding claim 39, Spencer does teach control signals comprising speed indicating signals being sent to the display (31). For example, Spencer teaches the display "for displaying at least one of a speed related to the sensed wheel speed, the sensed drive rate, and an indication of the sensed gear changer position with respect to the plurality of gears." (Col. 3, lines 32-36) Therefore, the control signals being sent to the display to tell it what to display have to be "speed indicating signals" as taught above. Also, in response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413,

208 USPQ 871 (CCPA 1981); *In re Merck & Co.,* 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). For example, the Appellants argument regarding Spencer's lack of a teaching of composite signals is moot, since the rejection of claim 39 is based on combinations of references and one of the references (i.e. APA) teaches the use of composite signals.

Regarding claim 40, the Examiner believes that the Appellant is giving too much weight to the claim language. For instance, the claim states "wherein the power/control circuit includes a waveform shaping circuit that derives the speed indicating signal from the output of an alternating current generator." So, all this claim is really saying is that the power/control unit includes a waveform shaping circuit, and the speed indicating signal is derived from the AC generator. Now, as stated by the Appellant, "Tomita discloses a waveform shaping circuit (13) that generates speed indicating signals" from the output of an alternating current generator (1). Also, Tomita teaches the waveform shaping circuit inside a controller. Therefore, when combined with Spencer, claim 40 is taught by the combination of references.

**(11) Related Proceeding(s) Appendix**

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

Dru Parries

/D.P./

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11.13.08